

Serial No.: 09/557,088

IN THE CLAIMS:

1. (Currently Amended) A semiconductor inspection method comprising:

extracting data representing adjacent lines of a logical circuit of a semiconductor apparatus represented by layout data, for avoiding a short circuit occurring between such lines;

simultaneously detecting any stuck-at failures in the logical circuit and obtaining input logical values from the logical circuit such that extracted data representing one of the adjacent lines has a logical value "1" while extracted data representing the other of the adjacent lines has a logical value "0"; and

selecting the input logical values of lines of the logical circuit other than the adjacent lines, such that an output logical value that is expected when the input logical values setting a pair of the logical values "0" and "1" are input to the logical circuit, is changed by a short circuit of the adjacent lines; and

Serial No.: 09/557,088

monitoring an output of a logical circuit that receives the input logical values, and comparing the monitored output with an output logical value that is expected when the input logical values are input to the logical circuit.

2. (Currently Amended) A semiconductor inspection method comprising:

extracting data representing adjacent lines of a logical circuit of a semiconductor apparatus represented by layout data, a distance between said lines being equal to or less than a threshold;

simultaneously detecting any stuck-at failures in the logical circuit and obtaining input logical values from the logical circuit such that extracted data representing one of the adjacent lines has a logical value "1" while extracted data representing the other pf the adjacent lines has a logical value "0";—and

selecting the input logical values of lines of the logical circuit other than the adjacent lines, such that an output logical value that is expected when the input logical values

Serial No.: 09/557,088

setting a pair of the logical values "0" and "1" are input to the logical circuit, is changed by a short circuit of the adjacent lines; and

monitoring an output of a logical circuit that receives the input logical values, and comparing the monitored output with an output logical value that is expected when the input logical values are input to the logical circuit.

3. (Currently Amended) A computer-readable recording medium comprising a program for causing a computer to execute:

extracting data representing adjacent lines of a logical circuit of a semiconductor apparatus represented by layout data, said adjacent lines having a possibility of a short circuit occurring between such lines;

simultaneously detecting any stuck-at failures in the logical circuit and obtaining input logical values from the logical circuit such that extracted data representing one of the adjacent lines has a logical value "1" while extracted data representing the other of the adjacent lines has a logical value "0";—and

Serial No.: 09/557,088

selecting the input logical values of lines of the logical circuit other than the adjacent lines, such that an output logical value that is expected when the input logical values setting a pair of the logical values "0" and "1" are input to the logical circuit, is changed by a short circuit of the adjacent lines; and

monitoring an output of a logical circuit that receives the input logical values, and comparing the monitored output with an output logical value that is expected when the input logical values are input to the logical circuit.

4. (Currently Amended) A computer-readable recording medium comprising a recorded program for causing a computer to execute:

extracting data representing adjacent lines of a logical circuit of a semiconductor apparatus represented by layout data, a distance between said lines being ~~equal to or less not greater~~ than a threshold;

Serial No.: 09/557,088

simultaneously detecting any stuck-at failures in the logical circuit and obtaining input logical values from the logical circuit such that extracted data representing one of the adjacent lines has a logical value "1" while extracted data representing the other of the adjacent lines has a logical value "0";-and

selecting the input logical values of lines of the logical circuit other than the adjacent lines, such that an output logical value that is expected when the input logical values setting a pair of the logical values "0" and "1" are input to the logical circuit, is changed by a short circuit of the adjacent lines; and

monitoring an output of a logical circuit that receives the input logical values, and comparing the monitored output with an output logical value that is expected when the input logical values are input to the logical circuit.